GUIDELINE F-5
(formerly 08-01)

Levels of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters

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Section 53

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Director, Program Development Branch

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SYNOPSIS

The primary purpose of this guideline is to describe the levels of treatment required at municipal and private sewage treatment works discharging to surface waters. The measures described in this guideline are in accord with Guideline B-1: "Water Management -- Guidelines and Procedures of the Ministry of Environment and Energy (Guideline Summary)". Procedures supporting this guideline are as follows:

(a) Procedure F-5-1: "Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

(b) Procedure F-5-2: "Relaxation of Normal Level of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

(c) Procedure F-5-3: "Derivation of Sewage Treatment Works Effluent Requirements for the Incorporation of Effluent Requirements into Certificates of Approval for New or Expanded Sewage Treatment Works".

(d) Procedure F-5-4: "Effluent Disinfection Requirements for Sewage Works Discharging to Surface Waters".

1.0 Ministry requirements for municipal & private sewage works

The Ministry requires that municipal and private sewage treatment works, outfall structures and emergency overflow facilities be located, designed, constructed and operated so as to minimize pollution of receiving waters and interference with water uses.

2.0 Normal Level of Treatment

The normal level of treatment required for municipal and private sewage treatment works discharging to surface waters is secondary treatment, or equivalent. Hereinafter, normal level of treatment shall mean secondary treatment or equivalent.

2.1 Relaxation of Normal Level of Treatment

A relaxation of the normal level of treatment will only be allowed on a case-by-case basis, in an emergency situation, and in accordance with the Ministry procedures listed below:

(a) Procedure F-5-1: "Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

(b) Procedure F-5-2: "Relaxation of Normal Level of Treatment for Municipal and Private Sewage Treatment Works Discharging to Surface Waters".

Under no circumstances will the level of treatment required be less than primary treatment.

2.2 Higher than Normal Treatment

Higher levels of treatment than secondary, up to and including "no discharge to surface waters" may be imposed in accordance with Procedure F-5-1.

Higher than normal level of treatment shall be justified by appropriate site-specific assessments of the receiving water.

3.0 Review of Treatment Levels

The level of treatment required for individual sewage treatment works shall be subject to periodic review by Regional Offices as necessary, especially when expansions of sewage treatment works are contemplated.

More stringent treatment requirements may be imposed as determined by site-specific assessment of the receiving water.

4.0 Effluent Requirements

For discharges by new or expanded sewage treatment works the level of treatment shall be derived by applying the measures in Sections 2.0, 2.1 and 2.2 above. Effluent requirements, including both waste loadings and concentrations shall be incorporated into Certificates of Approval.

For existing sewage treatment works, the level of treatment required shall be subject to review and amendment. Effluent requirements shall be assigned on a site-specific basis.

These effluent requirements shall be derived in accordance with Procedure F-5-3.

5.0 Effluent Requirements Compliance Assessment and Enforcement

A comprehensive monitoring program, including regular sampling of sewage works effluents and recording of flows, shall be undertaken by the sewage works operating authority. This will permit assessment of compliance with effluent requirements and, if necessary, initiation of appropriate remedial measures for works not in compliance.

The compliance assessment and enforcement actions shall be carried out in accordance with Guideline F-10 and F-2 respectively and Procedure F-5-3.

6.0 Phosphorus Removal Requirements

Phosphorus removal is required for certain sewage treatment works discharging to a number of water bodies in the Province. Refer to Guideline F-8: "Provision and Operation of Phosphorus Removal Facilities at Municipal, Institutional and Private Sewage Treatment Works" for details.

7.0 Effluent Disinfection Requirements

Effluent disinfection requirements are contained in Procedure F-5-4: "Effluent Disinfection Requirements for Sewage Works Discharging to Surface Waters".

8.0 By-passing and Combined Sewer Overflows

Minimizing the by-passing of sewage and combined sewer overflows is required in accordance with Procedure F-5-1.

9.0 Sampling and Analysis Requirements

The Ministry's sampling and analysis requirements for municipal and private sewage treatment works are contained in Guideline F-10.